SEQUENCE LISTING

<110> Winter Sederoff, Heike
       Huber, Steven C
       Larabell, Carolyn A

<120> SYNTHETIC PEPTIDES THAT CAUSE F-ACTIN BUNDLING AND BLOCK ACTIN
       DEPOLYMERIZATION

<130> JIB-1571

<140> 10/576,757
<141> 2006-04-20

<150> US 60/513,275
<151> 2003-10-20

<160> 30

<170> PatentIn version 3.5

<210> 1
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<212> PRT
<213> Artificial

<220>
<223> synthetic consensus active Zea mays Sucrose Synthase (SuSy)
       peptide

<400> 1

Glu Asn Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp
1   5   10   15

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<223> synthetic peptide derived from Zea mays SuSy1 protein 367-381

<400> 2

Glu Asn Gly Ile Leu Arg Lys Trp Ile Ser Arg Phe Asp Val Trp
1   5   10   15

<210> 3
<211> 15
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<223> synthetic peptide derived from Zea mays SuSy2 protein 357-389

<400> 3

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      protein and Homo sapiens beta and gamma Actin proteins

<400> 5

Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
1   5   10   15

<210> 6
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<220>
<223> synthetic peptide derived from Drosophila melanogaster Actin 3,
      5, and 6 proteins and Homo sapiens alpha Actin protein

<400> 6

Glu His Gly Ile Ile Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
1   5   10   15

<210> 7
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<220>
<223> synthetic peptide derived from Drosophila melanogaster ARP1

<400> 7

Glu His Gly Ile Val Lys Asp Trp Asn Asp Met Glu Arg Ile Trp
1   5   10   15

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<400>   8

Glu Asn Gly Val Val Arg Asn Trp Asp Asp Met Cys His Val Trp
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<220>
<223>   synthetic SS1 inactive control peptide

<400>   9

Gly Asp Arg Val Leu Ser Arg Leu His Ser Val Arg Glu Arg Ile Gly
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Lys

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<223>   SS2 active peptide based on Zea mays SuSy 377-392

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Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu
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Lys Lys

<210>   11
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<220>
<223>   SS11 inactive synthetic peptide

<400>   11

Ile Leu Arg Val Pro Phe Arg Thr Glu Asn Gly Ile Val Arg Lys
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<210>   12
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<223>  SS12 active synthetic peptide

<400>  12

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1               5                   10                  15


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<223>  SS15 less active synthetic peptide


<220>
<221>  SITE
<222>  (6)..(6)
<223>  replaced Tryptophan residue with Alanines

<220>
<221>  SITE
<222>  (13)..(13)
<223>  replaced Tryptophan residue with Alanine

<400>  13

Gly Ile Val Arg Lys Ala Ile Ser Arg Phe Glu Val Ala Pro Tyr Leu
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<220>
<223>  SS16 less active synthetic peptide corresponding to short middle
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1               5


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<223>  NR11 inactive synthetic peptide

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Gly Pro Thr Leu Lys Arg Thr Ala Ser Thr Ala Phe Met Asn Thr Thr
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Ser Lys Lys

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<223> SP26 inactive synthetic peptide

<400> 16

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<223> Small block of SS12 sequence required for less active synthetic
       peptide

<400> 17

Trp Ile Ser Arg Phe Glu Val Trp
1   5

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<223> X=noroleucine

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<223>   synthetic peptide of Drosophila melanogaster Actin protein
        consensus sequence

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His Thr Phe Tyr
             20

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<220>
<223>   synthetic peptide derived from Homo sapiens ARP1 protein

<400>   20

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1   5   10   15

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<223>   synthetic peptide derived from Homo sapiens ARP2 protein

<400>   21

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1   5   10   15

<210>   22
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<212>   PRT
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<223>   Core minimum block of SS12 sequence required for less active
        synthetic peptide

<400>   22

Ser Arg Phe Glu Val Trp
1   5

<210> 23
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<220>
<223> SS synthetic peptide B

<400> 23

Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu Lys Lys
1   5   10

<210> 24
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<212> PRT
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<220>
<223> SS synthetic peptide C

<400> 24

Glu Asn Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro
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Tyr Leu Lys Lys
            20

<210> 25
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<223> Consensus sequence of Synthetic Susy and ARP sequences

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<223> X=His or Asn

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<223> X= Val or Leu or Ile

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<223>  X= Ile, Leu, or Val

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Glu Xaa Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Trp Xaa
1               5                   10                  15


Xaa Xaa Xaa Xaa
        20
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<210> 26
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<220>
<223> Motif for a synthetic peptide which causes actin bundling and
      inhbits actin depolymerization

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<221> VARIANT
<222> (2)..(2)
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<222> (4)..(4)
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<223> X = any amino acid

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<223> X = any amino acid

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1   5   10   15

<210> 27
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<220>
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      inhibits actin depolymerization

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<223> X= Lys, Arg, or His

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Glu Xaa Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Trp
1               5                   10                  15


<210>  28
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<212>  PRT
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<223>  Formula (I) for active synthetic peptides


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<223>  X = Ile, Val, or Leu

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<223>  X = Arg, Lys, Asn, or Thr

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<222>  (5)..(5)
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<223>  X = Arg, Met, or Ala

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<222>  (10)..(10)
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<223>   X = Phe, or Glu

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<223>   X =Pro, or His

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<223>   X =Leu, or Thr

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Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Trp Xaa Xaa Xaa
1   5   10   15

<210>   29
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<212>   PRT
<213>   Artificial Sequence

<220>
<223>   Formula (II) for synthetic active peptides

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<220>
<221>   VARIANT
<222>   (7)..(11)
<223>   X = any amino acid

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<221>   VARIANT
<222>   (12)..(12)
<223>   X = Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met

<400>   29

Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Trp
1               5                   10


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<213>   Artificial sequence

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<223>   SS2 and SS12 subsequence necessary for peptide activity

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Gly Ile Val Arg Trp Lys Ile
1               5
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